



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/574,301	05/15/2006	Ismo Reilama	7633-0002WOUS	7070
35301 7590 08/07/2009 MCCORMICK, PAULDING & HUBER LLP CITY PLACE II 185 ASYLUM STREET HARTFORD, CT 06103				
EXAMINER				
HALPERN, MARK				
ART UNIT		PAPER NUMBER		
1791				
MAIL DATE		DELIVERY MODE		
08/07/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/574,301

Applicant(s)

REILAMA ET AL.

Examiner

Mark Halpern

Art Unit

1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 June 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 26-49 is/are pending in the application.
- 4a) Of the above claim(s) 45-49 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 26-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

- 1) Acknowledgement is made of Amendments received 4/2/09 and 6/11/09.

Claims 26, 43, 44 are amended.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

- 2) Claims 26-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feagan (2,919,976).

Claims 26-27, 29-30, 32-40, 42, 44: Feagan discloses Claus process of converting odorous hydrogen sulfide into sulfur as shown in reaction equations 1-2 (col. 1, lines 33-38). The reactions are the same reaction equations as disclosed in present Specification (Pg. 6, lines 8-10). The Feagan process takes place in two converter units as shown in Figure, in that the exiting flow from the first unit 28 enters the second unit 44, recovering elemental sulfur 36 after condenser 34 and recovering elemental sulfur 52 after condenser 50. Feagan discloses that the reaction takes place with substoichiometric amounts of air, which reads on air index being below one. At least 10 percent of sulfur is generated in the first unit before proceeding to the second unit

sulfur recovery. The amounts of sulfur resulting from the reactions are disclosed. The process of conversion of hydrogen sulfide into free sulfur inherently includes desulphurization of gases in a pulp mill or in the least it would have been obvious to one skilled in the art at the time the invention was made that the process includes desulphurization of gases in a pulp mill since Feagan teaches that the process pertains to various industrial waste gases, refinery gases and sour natural gas as recited in col. 1, lines 20-30. Feagan is silent that the second combustion unit is a conventional combustion system, however, it would have been obvious to one skilled in the art at the time the invention was made that the second combustion unit be a conventional combustion system in view that the present Specification does not define a conventional combustion system. The present Specification, as an example, recites that the second combustion unit may be "an odorous gas boiler, soda recovery boiler, lime sludge reburning kiln or flame, or more than one of these devices" (see for example paragraph [0040]) or a second combustion unit of the Claus system [0043] (Feagan, cols. 1-6, and Figure).

Claim 28: Feagan does not disclose reaction taking place at the claimed temperature, however, it would have been obvious to one skilled in the art at the time the invention was made, to run the combustion at the claimed temperature in order to speed up the reaction.

Claim 31: it would have been obvious to use boiler water recirculation to save energy costs.

Claims 41, 43: it would have been obvious to recirculate the flow that includes sulfur for further recovery.

Response to Amendment

- 3) Figures 1 and 2 designation as "Prior Art" is accepted.
- 4) Claims 26-43 rejection under 35 U.S.C. 112, second paragraph, is withdrawn in view of amend claims.
- 5) Claims 26-27, 29-30, 32-40, 42, 44 rejection under 35 U.S.C. 102(b) as anticipated by Feagan (2,919,976) is withdrawn in view of amended claims.
- 6) Applicant's arguments with respect to pending claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

- 7) Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Halpern whose telephone no. is 571-272-1190.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

/Mark Halpern/
Primary Examiner
Art Unit 1791